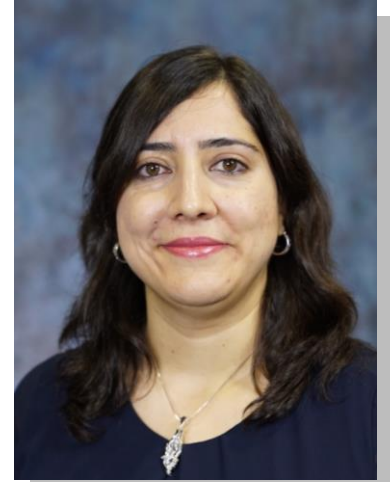




CoCo Seminar Series Spring 2018

System Dynamics Modeling as a Tool to Inform Public Health Interventions

Dr. Nasim Sabouchi
**Assistant Professor of Systems Science and
Industrial Engineering**
Binghamton University



Tuesday February 13, 2018 3:00-4:00pm (rescheduled)
Engineering Building H-9 (Knoll-MacDonald Commons / Watson Commons)

In this talk I introduce different systems science methodologies and focus on system dynamics modeling. I discuss applications in modeling complex health issues including dealing with dynamics of health behaviors and health and human service delivery systems. In one study I demonstrate how public awareness, risk behaviors, ecological and climatic factors, and increase in rodents and tick density and infectivity within ecologically fragmented peri-urban built environments, influence the increase of number of Lyme disease (LD) cases in the Northeastern United States with over 300,000 new cases each year. We have used a System Dynamics (SD) approach to develop a simulation tool to evaluate the significance of risk factors in replicating historical trends of LD cases, and to investigate the influence of different interventions on reducing LD risk. The model accurately replicates historical trends of LD cases. This model provides recommendations for LD prevention, including further educational programs to raise awareness and control behavioral risk. This model has the potential to be used by the public health community to assess the risk of exposure to LD.

Dr. Nasim Sabouchi is an Assistant Professor of Systems Science and Industrial Engineering at Binghamton University. Her research interests include system dynamics modeling, health care capacity and delivery, health policy analysis and public health.

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